CHAPTER 5 - IMPLEMENTATION OF THE FOREST PLAN

INTRODUCTION

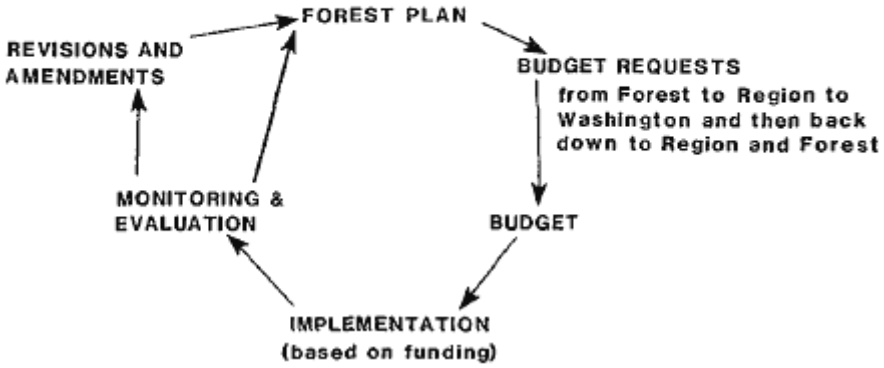
This chapter explains how management of the Mt. Baker-Snoqualmie National Forest Plan will be guided by the implementation of this integrated resource plan, instead of by functional plans. Implementation requires moving from an existing management program, with a budget and "targets" for accomplishment, to a new management program - one with a budget, goals, objectives, and standards and guidelines, that were developed with extensive public involvement and are responsive to issues and concerns.

This Forest Plan, used in conjunction with Forest Service Manuals and the Pacific Northwest Regional Guide, establishes the direction for the Mt. Baker-Snoqualmie National Forest for the next 10 to 15 years.

The remainder of this chapter explains how management of the Mt. Baker-Snoqualmie National Forest moves from the existing management situation (described in the DEIS) to this integrated plan. Chapter sections describe: aspects of the implementation that are influenced by previous management activities and objectives; the relationship between project planning and this Forest Plan; monitoring and evaluation; and the circumstances which could require amendments and revisions to the Plan.

Figure 5-1 displays the Forest Plan implementation process:

Figure 5-1
Implementation Process



B. IMPLEMENTATION DIRECTION

Implementation of the Forest Plan occurs through identification, selection scheduling of projects, and execution of management practices to meet the management direction provided in the Plan. Implementation may also involve responding to proposals by others for use and/or occupancy of National Forest system lands.

Chapter 5
Project Planning

The Forest Plan serves as the single land management plan for the Mt. Baker-Snoqualmie National Forest; all other management plans are replaced or incorporated into this direction. A number of other plans have been (or will be) developed to give additional, more specific guidance to management activities. These are developed within the direction that is established in this Plan. They are needed for site-specific information or to carry out direction in this Plan. Some examples of these plans include:

- Wild and Scenic River Management Plans
- Wilderness Action Plans
- Land Adjustment Plans
- Viewshed Corridor Plans
- Scenic Byway Plans
- Area Transportation Plans
- Cultural Resource Management Plans
- Species Management Guides
- T & E Recovery Plans

The management direction provided by this Forest Plan comprises the framework within which project planning and activities take place. It defines management area goals and management standards that guide project activities toward achieving a desired future condition for the Management Area and, collectively, for the Forest. It specifies a schedule for project activities. It provides guidance concerning potential land and resource management.

Within this guidance, projects are developed o most efficiently and effectively accomplish management goals and objectives. Project environmental analysis provides an essential source of information for Forest Plan monitoring. First, as project analyses are completed, new or emerging public issues or management concerns may be identified. Second, the management direction designed to facilitate achievement of the Management Area goals are validated by the project analyses. Third, the site-specific data collected for project environmental analyses serve as a check on the appropriateness of the land allocation. The information included in the project environmental analyses is used as part of the monitoring process to determine when changes should be made in the Forest Plan.

Project Scheduling

The schedule of proposed and possible projects for the first decade is contained in Appendices A through K of this document. These activity schedules represent a pool of possible projects from which implementation schedules (specific, funded projects) are developed in conjunction with funding approvals. Lists of possible projects to meet or accelerate the 10-year management practice schedule are maintained by the unit managers. These lists will routinely change as projects are implemented or are removed from the lists (for various reasons) and replaced with new projects. Projects are scheduled in response to the management direction in the Plan, planned outputs of goods and services, near-term management needs and opportunities, and the annual budgeting process. If there is a conflict between standards and guidelines and program outputs, projects will be in full compliance with standards and guidelines set forth in this Forest Plan. (WO 1920 February 23, 1990)

Consistency With Other Instruments

This Forest Plan serves as the single land management plan for the Mt. Baker-Snoqualmie National Forest. All other land management plans are replaced by the direction in this Plan, with the exception of the Alpine Lakes Area Land Management Plan and the Skagit Wild and Scenic River Management Plan. These two plans are incorporated into this Forest Plan. The existing management plans that are superseded are:

Ranger District Multiple Use Plans
Land Adjustment Plan, Snoqualmie National Forest
Land Adjustment Plan, Mt. Baker National Forest

Also superseded are the portions of the Timber Management Plans for the Mt. Baker N.F. and Snoqualmie N.F. administered by the Mt. Baker-Snoqualmie National Forest.

All outstanding and future permits, contracts, cooperative agreements, and other instruments for occupancy and use of lands included in this Forest Plan will be brought into agreement with this Plan, subject to the valid existing rights of the parties involved. This will be done as soon as practicable, and generally within three years of the date of this Plan.

Budget Proposals

The scheduled projects and monitoring activities in the Plan are translated into multi-year, program budget proposals that identify needed expenditures. The schedule is used for requesting and allocating the funds needed to carry out the planned management direction. The Forest's current year tentative annual program of work will be derived from this process. Upon approval of a final budget for the Forest, the annual program of work is finalized and carried out. Accomplishment of the annual program is the incremental implementation of the management direction of the Forest Plan. Depending on final budgets, outputs and activities in individual years may be significantly different from those shown in Chapter 4 and 5, depending on final budgets.

Environmental Analysis

Projects and activities permitted through this Forest Plan are subject to analysis under the NEPA process, as they are planned for implementation. Analysis will follow the requirements of 40 CFR 1502.20, FSM 1950, and FSH 1909.15 in determining subsequent environmental analysis and documentation. Appropriate public involvement will be a part of the analysis process. Regardless of the form of NEPA documentation (environmental impact statement, environmental assessment, or categorically excluded/decision memo), an analysis file will be maintained and available for public review.

C. MONITORING AND EVALUATION PROGRAM

The Monitoring and Evaluation Program is the management control system governing implementation of the Forest Plan. At established intervals (once per year), the Interdisciplinary Planning Team shall evaluate implementation to verify compliance with the Standards and Guidelines established in Chapter 4 of this Plan, and to determine the effectiveness of those Standards and Guidelines in meeting Land and Resource Management Plan objectives. Based upon this evaluation, the Interdisciplinary Team shall recommend to the Forest Supervisor such changes in management direction, revisions, or amendments to the Forest Plan as deemed necessary.

Monitoring involves a periodic comparison between the end results that are realized and those projected in the Forest Plan. Costs, outputs, and environmental effects, both experienced and projected, will be compared to *gauge* the overall *progress in* implementing the Forest Plan, as well as to determine whether the overall relationships on which the Forest Plan is based continue to be accurate. When differences occur, they will be evaluated as to their significance, and appropriate amendments or revisions will be considered and installed in compliance with NEPA and Forest Service processes.

The Monitoring Plan, Table 5-1, identifies the key activities and outputs to be monitored during implementation of this plan. This table is based on detailed information found in Forest Plan Monitoring Worksheets; these are located in the planning records at the Mt. Baker-Snoqualmie's Supervisors Office.

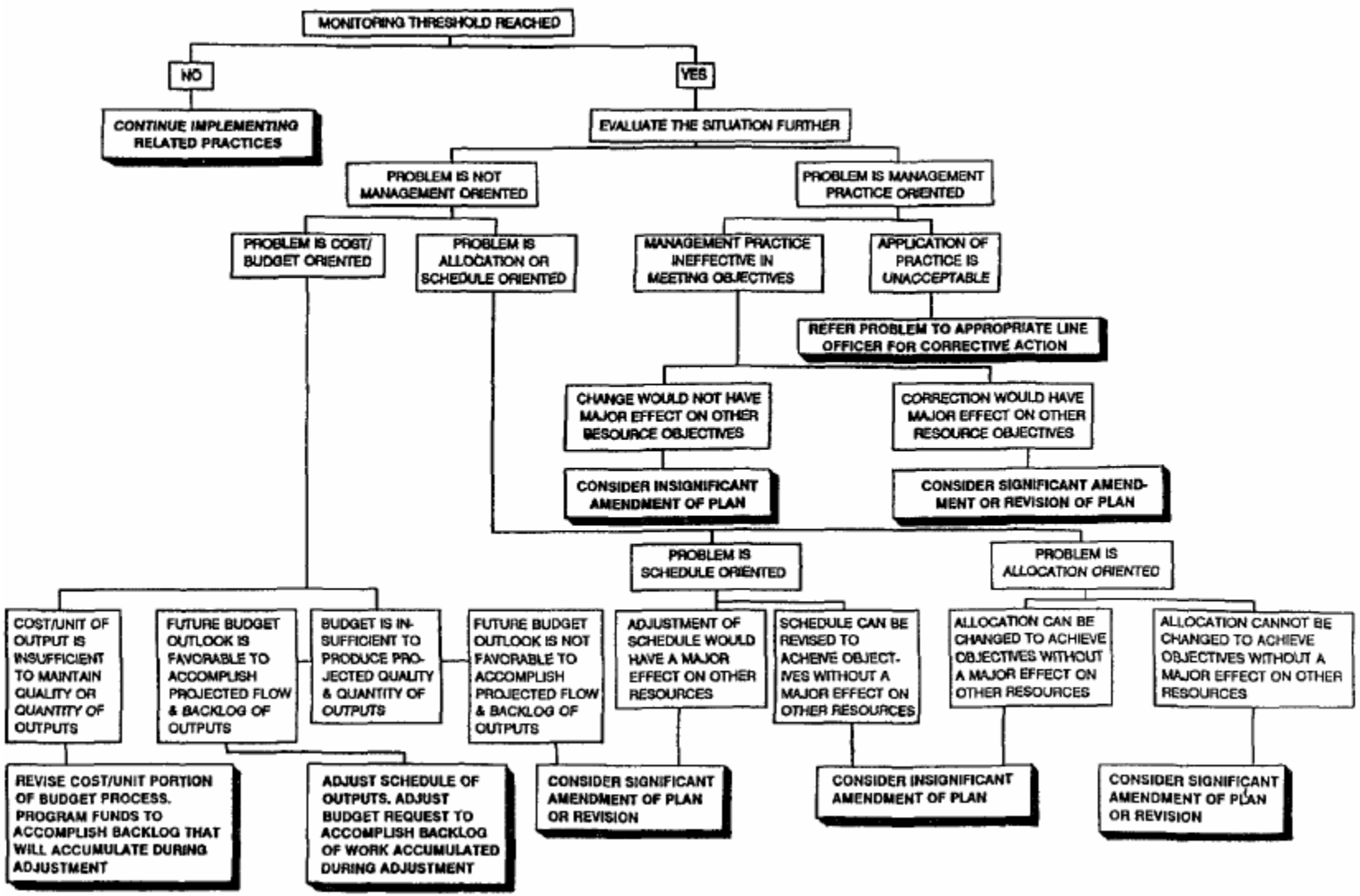
Table 5-1 is not intended to spell out all monitoring that is occurring or may occur on the Forest in the future. Currently, many activities are being monitored to comply with administrative and legal responsibilities. However, this monitoring is not essential for the purposes mentioned above. Only those items that are essential and sensitive enough for the purposes of this plan will be addressed in the monitoring plan.

The objectives of monitoring are to determine:

- if management area direction is being applied as directed;
- if standards are being followed;
- if the forest is achieving the objectives of the Plan;
- if application of management area direction is achieving desired conditions;
- if the effects of implementing the Plan are occurring as predicted;
- if the costs of implementing the Plan are as predicted;
- if management practices on adjacent or intermingled non-National Forest lands are affecting the Forest Plan goals and objectives;
- if implementation of the Forest Plan is keeping other agencies from reaching their stated objectives.

Monitoring and evaluation each have a distinctly different purpose and scope. In general, monitoring is designed to gather the data necessary for evaluation. During evaluation, data provided through monitoring are analyzed and interpreted. Evaluation of the results of the site-specific monitoring program will be documented in the annual monitoring and evaluation report- The significance of the results of the monitoring program will be analyzed and evaluated by the Forest Interdisciplinary Team.

DECISION FLOW DIAGRAM FOR EVALUATION



The data collected during monitoring will be evaluated using the Decision Flow Diagram shown in Figure 5-2. Based on this evaluation, any need for further action will be recommended to the Forest Supervisor. The action prescribed by the Forest Supervisor will depend on the significance of the results of monitoring. The magnitude of the change from predicted conditions is an important factor, as is the risk associated with the change. For example, in terms of risk, a finding of somewhat more or less recreation visits than predicted has considerably less significance than a finding of reduced water quality. Procedures prescribed by the National Environmental Policy Act will be followed as the Forest Supervisor determines the appropriate action.

Actions directed by the Forest Supervisor could include one or several of the following:

1. A determination that no action is needed, that monitoring indicates goals, objectives, and standards are being achieved.

2. District Ranger(s) may be directed to improve application of management area direction as projects are implemented. Normally, this would involve a change in proposed project design or a site-specific interpretation of management area direction. In some instances, additional information or study may be required due to an inconclusive evaluation.

3. Management area direction may be modified as a Plan amendment. This would normally involve a question of the applicability of the direction to a specific geographic area, rather than to the entire Forest.

4. The assignment of acres to a particular management prescription may be modified as a Plan amendment.

5. The projected schedule of outputs may be amended.

6. The needed action may singly or cumulatively be so significant as to cause the Forest Supervisor to initiate revision of the Plan.

A file will be maintained in the office of the Forest Supervisor which documents all decisions resulting from monitoring and evaluation.

The document resulting from the use of the Decision Flow Diagram constitutes the evaluation report. As applicable, the following will be included in each evaluation report:

1. A quantitative estimate of performance comparing outputs and services with those projected by the Forest Plan;

2. Documentation of measured effects, including any changes in productivity of the land;

3. Unit costs associated with carrying out the planned activities as compared with unit costs estimated during Forest Plan development;

4. Recommendations for changes;

5. A list of needs for evaluation of management systems and for alternative methods of management;

6. A list of additional research needed to support the management of the Forest;

7. Identification of additional monitoring needs to facilitate achievement of the monitoring goals.

The Monitoring Plan

The monitoring plan follows, in Table 5-1. Several of the variables across the top of this table merit special discussion.

Precision is a subjective descriptor to measure the expected accuracy with which data is collected. Precision, in Table 5-1, is qualitatively rated as high, moderate, or low.

Reliability is a measure of how accurately the method used to monitor reflects the situation. A qualitative rating system of high, moderate or low is utilized.

Table 5-1
Monitoring Plan

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
SOIL PRODUCTIVITY	Maintain soil productivity by insuring that the effects of displacement, compaction and erosion within harvest units when added to the lands dedicated to systems roads and landings do not ex- 20% of the area.	Maintain soil resource so that land productivity is not impaired.	1) Follow Regional Guide "Guidelines for Sampling Some Physical Conditions at Surface Soils" by Howes, Hazard and Geist - other State of Art Technology 2) End product review	% area affected Visual observation of condition	One project in in a watershed annually
MASS WASTING	Determine if management activities are affecting the frequency and amount of mass wasting.	To maintain productivity of land and provide water quality meets the needs of the beneficial user.	Visual observation & photo points to determine rate & kind of accelerated movement.	Area disturbance, landslide numbers, tons/acre.	2 projects per year in area selected to monitor
WATER REHABILITATION	Determine if rehabilitation prescriptions and methodology being used for watershed rehabilitation are achieving expected results.	To maintain or improve conditions of Forest watershed to assure land productivity and acceptable water quality.	Visual observations and transects in project area.	% vegetative cover and project improvement effectiveness.	Annualy for each project for first three years. Every five years after.
WATER SHED S&G'S AND PRESCRIPTION	Determine if the S&G's are effective in protecting the watershed resource.	To protect and maintain conditions of Forest watersheds to assure land productivity and acceptable water quality.	Visual observations, sampling of one or more key water parameters, and photos.	Temperature, area of disturbance, etc.	One area or watershed per year.
	Reforestation	Determine if NFMA Requirement and Forest Plan assumptions are met.	Plantation survival examinations TRI/GIS database Attainment reports (Annual).	Acre	1, 3 and 5 years.
	Timberland Suitability	Determine Change in acres of timber base.	Formal and informal management reviews. Project Planning (ongoing Vegetation resource inventory (as scheduled) and at least every 10 years).	Acre	5 years.

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
SOIL PRODUCTIVITY	Annually	H	H	-Project DR film -TRI/GIS	Forest Staff and District Ranger	10% deviation from regional guidelines (FSM 2500 R-5 supp 45)
MASS WASTING	Annually	M	M	-Project DR file -TRI/GIS	District Ranger	10% increase in rates of mass wasting established for previously managed areas
WATERSHED	Annually	H	H	-Project DR file -TRI/GIS	District Ranger	20% less cover than stated in project objectives. No more 20% failure rate of structure
WATERSHED S&G's	Annually	H	H	-Project DR file -TRI/GIS	District Ranger & Forest Staff	Within 10% of that defined for each S&G
TIMBER	3 years	H	H	TRI, GIS TRACS	District Manager	10% of harvested lands not adequately stocked after 5 years
	5 years	H	H	TRI, GIS	District Ranger Timber Staff Officer	± 5% change in unsuitable acres, ± 10% amend Forest Plan, ± 20% consider revision of Forest Plan

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
TIMBER (cont)	Size of harvest area	Standards for size and dispe-rsion are met and size limitation are appropriate	Ea's and TRI database Field Reviews	Acre	Annual
	Impacts to growing stock levels -insect & disease hazards -animal damage -air pollution	Determine whether IPM measures were taken and effective	Aerial surveys, field observation & past detection reports. Stand exams	Acres and/or infestation centers	Every other year
	Allowable Sale Quantity	Chargeable volume offered is consistent with Plan	TSSA, Stars	MMCF	Annual
	Timber Sale Program Quantity	Total chargeable and non-charge-able volume offered is consis-tent with Plan	TSSA, Stars	MMCF	Annual
	Acres per Manag-ement Area of var-ious silvicultural practices	Silvicultural practices are accomplished as planned for each Management Area	Number of acres harvested by silvicultural system or activity by management area	Acres	Annual
	Distribution of timber harvest acres and volume	Harvest activ-ities by mgt area working group, condition class occur as planned	10-year Action Plan, 6 month announcement, SILVA, TRACS, attainment reports (annual) and Stars	Acres and MMCF by condition class working group, management acre	Annual
	Mt. Hemlock suitability	Tentatively suit-able lands in the Mt. Hemlock association	Mt. Hemlock study plan	Acres	Annual

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
TIMBER (cont)	Annually	H	H	TRI, GIS STARS, TRACS	District Ranger Timber Staff & Wildlife Staff Officer	+ 5% over exceptions in Forest Standards and Guidelines.
	Every other year	M	M	TRI, GIS	Timber Staff Officer, District Ranger	When unacceptable losses develop (2,000 acres per decade) on the ground.
	Annually	H	H	TSSA, Cut and Sold report, Stars	District Ranger, Timber Staff Officer	± 15% annually or the cumulative volume exceeds ± 10% from that predicted for the decade.
	Annually	H	H	TSSA, Cut and Sold report, Stars	District Ranger, Timber Staff Officer	± 25% annually or the cumulative volume exceeds ± 10% from that predicted for the decade.
	Annually	H	H	TRI, GIS, Accomp-lishment reports, TRACS, STARS, TSPIRS	District Ranger, Timber Staff Officer	Total acres treated by each practice is plus or minus 10% of planned objective. When threshold is exceeded, ASQ should be adjusted based on new FORPLAN runs.
	Annually	H	H	TRI, GIS, STARS, Accomplishment Reports, TSPIRS	District Ranger, Timber Staff Officer	Total chargeable volume (MMCF) and/or harvest type (Acres) are more than ± 10% of the planned objective for the decade.
	Annually	H	H	Mt. Hemlock Study Plan, TRI, GIS	District Ranger, Timber Staff Officer	N/A

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
OLD GROWTH	Old Growth Ecosystem	Identify acres and distribution of old Growth through time	Field reviews, GIS, Region Six's old growth inventory mapping project, and TRI	Acres	Annual
WILDLIFE	Population trends and habitat capability for T&E species (bald eagle, grizzly bear, American peregrine falcon, gray wolf and plants)	Determine how populations are responding to the available habitat	Utilize bald eagle census in known nest and roost sites. Review WDW, USPWS, and other T&E census sources and habitat data. Survey bi-annually all assigned T&E habitat for its continuing suitability. Gather data on habitat in and adjacent to project areas during post project analysis.	Numbers of animals, acres of suitable habitat	Biennial
	Same as above but for old growth and snag dependent species	Same as above	Conduct (or coordinate) monitoring of population levels in SOHAs. Survey all MR old growth acres for continued suitability. Use post-project analysis or any project adjacent to assigned old growth to establish actual wildlife tree levels. Review WDW and other agency data.	Number of animals acres of suitable habitat	Biennial
	Same as above but for deer, elk and mountain goat	Same as above	Survey all assigned big game habitat in and adjacent to project areas for continuing suitability. Use post-project analysis and data from WDW, Univ of Washington, other sources	Number of animals, acres of suitable habitat cover/ forage ration	Every 3 years for goats and 5 years for deer and elk
	Habitat improvement	Determine effectiveness of habitat improvement	Field observation of habitat utilization during project analysis	Number of targeted animals	The 1st and 5th year after project completion

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
OLD GROWTH	5 years	H	H	STARS, GIS, TRI, Region 6 Old Growth mapping project, Integrated Resources Inventory	District Ranger, Timber Staff & Wildlife Staff Officers	± 10% variance from assumed in the Forest Plan
WILDLIFE	5 years or upon habitat loss	L	L	TRI/GIS	District Ranger	Decrease in populations and/or suitable habitat below recovery plan objectives
	5 years	L	L	TRI/GIS	District Ranger	Number of animals, pairs or habitat areas is 10% less than projected outputs from Forest Plan, decrease in number of wildlife trees needed to meet 40% potential population level
	3 and 5 years	M	M	TRI/GIS	District Ranger	+ or – 20% from expected improvement as predicted in acre equivalent outputs from Forest Plan

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
FISH S&G AND PRESCRIPTIONS (FISH)	Effectiveness of the S&G and area prescriptions (including BMP's) in protecting desired fish habitat capability objectives and riparian area values	To provide for desired levels of anadromous & resident fish population through habitat protection, restoration, and improvement	ID Team using FSH 2609.23 and the Hankin-Reeves stream survey methodology along with the Stream Channel Stability Evaluation	Desired Habitat Capability Levels for Anadromous & Resident Fish	Annual
RIPARIAN	Terrestrial (Diversity abundance, and habitat capability of wildlife species)	To determine population responses of various riparian dependent wildlife species in the available Forest riparian habitat	Conduct population transects and measure ground conditions in selected riparian areas	Number of animals by species, % ground cover, stand age, number of vegetation species, other habitat components	Once immediately on project completion for all projects in 10% of established watershed that have incurred activity
WATER QUALITY/ FISH HABITAT CAPABILITY	Effectiveness of BMP's in maintaining, improving or reducing the capability of the aquatic and riparian areas in the Forest to meet objectives for on-off Forest fishery values	To maintain or improve water quality that will meet the requirements of the Clean Water Act, state water quality stds, and the desired levels of beneficial uses of the water(fish)	Measure temperature, sediment bedload, turbidity, & pH using methodology defined in FSH 2609.23. Measure stream channel stability evaluation and streambank vegetation measurements	Change in degrees centigrade, tons of sediment including bedload, pH, and Jackson turbidity units	At low-flow time of year (July-Sept) on a specific project site or on sensitive aquatic system. Number of samples is dictated by the method employed
FISH HABITAT RESTORATION/ IMPROVEMENT	Effectiveness of fish habitat restation and enhancement projects in producing the fish outputs as predicted in the FP	To determine if the habitat treatment results in an increase in habitat quality. and/or quality.	Stream channel response to structural of nonstructural treatment (refer to the Fisheries Handbook)	Change in the habitat capability index	Measure habitat change on 10% of the project sites per district
		To determine if the projected increase in fish (pounds) of anadromous fish & sportfish use (WFUD) are being achieved (FP outputs)	Calculate smolt production and convert to harvested adults for estimating pounds on fish harvested. Estimate WFUD's derived from anadromous and resident fish sport fishing use from State recreational sport fishing data	Number of smolts produced per site or location. Number of increase WFUD from sport fishing use as a result of project	Measure change in fish production on 10% of the project sites per district

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
FISH S&G AND PRESCRIPTIONS (FISH)	1 Report per year	M	M	TRI/GIS	Forest Fish and Wildlife Staff Officer & District Manager	No more than 5% decrease from the desired habitat capability levels for the project area
RIPARIAN	Every 5 years	M	L	TRI/GIS	Forest Fish and Wildlife Staff	Cumulative sample at end of 5 years indicates a 15% loss of previously established riparian habitat. Population transects when compared over time indicate a 10% loss of diversity
WATER QUALITY/ FISH HABITAT CAPABILITY	1 Report per year	M	M	TRI/GIS	Forest Fish & Wildlife Staff & District Ranger	Do not exceed water quality standards established in the State Water Quality Plan
FISH HABITAT RESTORATION/ IMPROVEMENT	Annually sample 30% of the improvement sites	M	M	TRI/GIS	Forest Fish & Wildlife Staff & District Ranger	90% of the improvement sites meet habitat quality and quantity objectives
	Annual (same as above)	M	M	TRI/GIS	Forest Fish & Wildlife Staff & District Ranger	Habitat treatment sites are within 15% of meeting projected benefits

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
CUMULATIVE EFFECTS-FISH HABITAT CAPABILITY	Determining the cumulative cause/ effect relationships between land disturbing activities such as timber mgt. & associated road construction and fish habitat capability	To maintain or improve the desired fish habitat capability levels for anadromous and resident fish	Collect and evaluate fish habitat trend data to determine changes in the existing fish habitat capability using the Hankin-Reeves stream survey methodology & the stream channel stability evaluation	Percent or degree of change in the Fish Habitat Capability Index for the target species	Annually
CUMULATIVE EFFECTS-WATERSHED CONDITION	Assessment of the In-channel Condition of the Forest's watersheds (acceptibility/unacceptability	To determine the acceptability or unacceptability of the following 4 conditions: channel stability pool condition, status of large woody debris, and stream bank stability	Validate the watershed condition by: narrative update of the management history (acres harvested, road density), amount and type of unstable soils, updated stability rating of the channels, updated evaluation of the fish habitat capability trends, a current assessment on the prevailing climatic conditions, and a current assessment as to potential for off-site downstream impacts	Acceptable/ Unacceptable Watershed Condition	Will be determined as projects are proposed within the watersheds
WATER	Stream Discharge (flow)	To augment information needed for sediment & bedload movement and for the use in the watershed cumulative effects process	Streamflow gages, staff gages or other suitable techniques	Cubic foot per sec	Over range of discharge events
SOCIAL AND ECONOMIC	Receipts returned to counties	Determine change in county receipts	Revenue and 25% fun records	Dollars/year	Annual

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
CUMULATIVE EFFECTS- FISH CAPABILITY	Annually	L	L	TRI/GIS	Forest Staff, Wildlife Staff Officer and District Ranger	No more than 5% decrease in the desired fish habitat capability level for each Forest watershed for the target fish species
CUMULATIVE EFFECTS- WATERSHED CONDITION	Annually	L	L	GIS	Forest Fish and Wildlife Staff & District Ranger	No more than 15% of the Forest's watersheds in an unacceptable condition at any one time
WATER	Annually	L	L	GIS	District Ranger	A change in base line flow conditions
SOCIAL AND ECONOMIC	Annually	H	H	6500 file	Planning Staff Officer	Receipts to counties exceeds + or – 25% annually or + or – 15% of 5 years average from those predicted in the Forest Plan

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
SOCIAL AND ECONOMIC (CONT)	Validation of costs & values identified in the Forest Plan	Determine accuracy of assumptions used in model	Timber sale appraisals, PAMARS and contracts	Dollars	Annually
	Changes in local income		U.S. Census, State publications, Co & local agency reports, etc	Dollars	Annually
	Changes in local population		U.S. Census, State publications, Co & local agency reports, etc	Thous. of persons	Annually
	Changes in local employment patterns		U.S. Census, State publications, Co & local agency reports, etc	Thous. of persons by industry of occupation	Annually
	Changes in lifestyles, attitudes, beliefs or values		Interviews with key public and opinion leaders in communities, observation, etc (See FSH 1909.17)	Various	Biennial
	Changes in Forest contribution to area forest products industries		Tracking of raw material flow to mills, industry mix	MMCP/yr, % industry distribution	Annually
AMERICAN INDIAN INTERACTION	Coordination with Tribes	Determine if Forest programs & activities are in compliance with treaties, AIRPA & FLPMA	Meetings, interviews and telephone contact with American Indian Tribal representatives	Documentation of Contacts	On-going
CULTURAL	Documentation	Assess level of accomplishment of inventoried acres, site surveys, recordation and evaluations, project assessment, mitigation projects, management plans, and the associated costs	Review data components in Cultural Resource Reconnaissance Reports, site inventory records, evaluation reports, Cultural Resource Management Plans, and cost figures from Field units	Variable acres, properties, plans, dollars	On-going

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
SOCIAL AND ECONOMIC (CONT)	5 years	H	H	1920 file	Planning Staff Officer	Predicted costs vary + or – 10% from actual costs over a 5-year average
	Annually	H	H	Files	Planning Staff Officer	+/- 15% in 3 years (corrected for inflation)
	Annually	H	H	Files	Planning Staff Officer	+/- 15% in 3 years
	Annually	M	H	Files	Planning Staff Officer	+/- 15% in 3 years
	Quarterly	L	M	Files, newspapers, anecdotal data	Planning Staff Officer	Established trend toward Forest-Community conflict or identification of problems
	Annually	M	M	TSA reports, Files	Planning Staff Officer	Fails to meet plan objectives
AMERICAN INDIAN INTERACTION	Annually	L	M	Files 1920, 2360	District Ranger	When Administrative appeals and others have been filed
CULTURAL	Annually	H	M	District and S.O. Cultural Resource Management files, Accomplishment Report	Recreation Staff Officer	Failure to meet 20% or more of assigned cultural resource targets

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
CULTURAL (CONT)	Protection of historical resources	To determine the protection for historically significant structures & sites from vandalism and natural degradation	Inspection visits to structures and documentation of observations (may include photogrammetric recordation in selected cases)	Properties	Variable. Depends on site condition and nature and intensity of threatening agents. As a minimum should be done annually on a sampling of properties
SCENERY	Visual Quality Level	Determine whether the condition of the visual resource is meeting the standards set by management standards and guidelines	Monitor visual conditions during programs and activity reviews through use of visual resource photopoints	Acres by VQO	Annually on 10% of viewsheds, vegetative manipulation roads, or major developments
RECREATION	Recreation outputs by ROS class	Determine where recreation opportunities are being provided and quality of experience conforms to management standards and guidelines	Monitor recreation use by type of activity & location of activity. Measure in terms of M/RVDs or visits. Correlate with ROS class	Measure -M RVOS -visits -activities -standards by ROS class -Acres not meeting desired attributes	Annually
	Miles of trail in trail inventory	Determine the extent trail mileage is being retained in the system	RIM Trails database	Miles	Annually
WILDERNESS	Condition of Wilderness resource	Assess the impacts of overuse	Measure visitor registration or permits, Wilderness Ranger surveys and photoelectric counts to measure trail and campsite encounters in transition and trailed zones. Sample once a month during high use season	Number of encounters	Annually
			Measure changes in LAC's in Wilderness	Sq. feet denuded area	Initially sites recorded on campsite inventory form. 5 years or 20% of sites annually

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
CULTURAL (CONT)	Annually	M	M	District and S.O. Cultural Resource Management files, RIM facility condition report	Recreation Staff Officer	When individual site condition class drops one level
SCENERY	Annually	H	H	TRI/GIS	Recreation Staff Officer	10% of acres not meeting VQO
RECREATION	Every 2 years	M	M	RIM	Recreation Staff Officer	When use varies + or – 25% from projections or quality of experience is below standard on 15% of sites
	5 years	H	M	RIM Trails	Recreation Staff Officer	Mileage loss exceeds 10% of the base inventory
WILDERNESS	Annually	M	M	Files (2320), Wilderness Ranger close out reports	District Ranger	When encounter reach 90% of established LAC for each WROS
	5th year	H	H	Files, Wilderness Ranger close out reports	District Ranger	When vegetation loss reaches 90% of LAC for each WROS class

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
WILDERNESS (CONT)			Measure changes in water quality bacteriological levels focusing on Fecal Coliform	Most probable number method	Once every 5 years at all extra-heavy use lakes
		To measure change from established base-line for visual range within Class I areas	Point samples using photopoints	Miles	Continuous sampling but reviewed annually after year 3
		To determine the extent that natural ignitions are used to accomplish pre-scribed fire objectives in wilderness areas	Fire reports	Active burned by FIL	Annually
WILD AND SCENIC RIVERS	Retention of characteristics of eligible rivers	Determine effects of act-ivities on attributes for potential class-ification of river segments eligible for wild & scenic river designation	Assure that attributes are maintained at current levels through project reviews on all actions involving veget-ative, soil, or scenic alter-ations manipulation, road or trail construction along eligible rivers	N/A	Continuing as projects are
	Skagit River Plan	Assume that plan is being follow-ed or need for revision	Regional and Forest level activity reviews	N/A	Once every 3 years
RESEARCH NATURAL AREAS	Effectiveness at meeting RNA man-agement object-ives	Assure that RNA attributes and unmodified con-ditions are maintained	Visual site inspection, evaluation of impacts from a) adjacent activities recreation, timber harvest, etc.) and b) on-site activities that are detrimental to RNA qualities (recreation): evaluate Forest compliance with Standards and Guidelines	RNA sites	Annually

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
WILDERNESS (CONT)	5th year	H	H	Files, Wilderness Ranger Close-out reports	District Ranger	When 10% of established sites fail to meet est-abolished drinking standards
	Annually	H	H	Written reports prepared by contractor	Fire Staff Officer	When measured values taken after year three of plan implementation indicate a decline in visual range when compared against the information gained during years 1-3 of the decade
WILD AND SCENIC	Annually	H	H	Fort Collins Fire Occurrence data file	District Ranger	When the burned acreage in any one year exceeds by 40% the annual expected burned acreage expressed in the Forest Plan or the accumul-ated acres burned for the decade exceeds the Plan's expected acreage by 20%
	N/A	M	H	District files (2310, 2360)	District Ranger	When resource condition or level of activities would lower potential class-ification
RESEARCH NATURAL AREAS	3rd year	M	H	District files (2310, 2360)	Recreation Staff Officer	On 3 year schedule or if conditions on river change dramatically
	Annually	M	H	District, S.O., and PNW Research Station	District Ranger	When standards are not being met or downward trend is indicated

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
RESEARCH NATURAL AREAS (CONT)			Guidelines/coordination with Station Director, evaluate implementation and effectiveness of individual RNA management prescriptions		
FIRE	Fire Management program efficiency	Determine if fire program implementation is achieving intended results	Comparison of the expected Fire Management Efficiency from the Plan with the experienced efficiency following plan implementation	Dollars of budget (include FFF) plus resource losses over M Ac protected	Annually after year 3
LANDS	Effects of N.F. management on lands resources and communities adjacent to National Forest land	Determine if LMP implementation results in positive and/or adverse effects to occur on/in adjacent lands resources and communities	Periodic meetings with cost share co-operators, city, county officials, and staff management review	N/A	Annually
			Special Uses Program review with site inspections (interdisciplinary)	5 sites	Annually
	Adjacent land Management by Other Government Agencies (Federal, State and local)	Determine effects on N.F. lands resulting from management activities on adjacent lands managed by other governmental organizations (Federal, State and local)	Periodic meetings with Government agencies and staff management reviews	N/A	Annually
	Effects of N.F. management of utility corridors on transmission needs and other resource values	Determine whether utility corridor mgmt. strategy is compatible with land mgmt. objectives and energy needs. Assure that capacity of existing corridors is utilized prior to initiating new corridor	Review existing capacity and plans for upgrade with utility officials prior to new corridor construction	N/A	As needed
			Management review of effects of implementation on resources, land management and energy needs	N/A	Every 5 years

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
FIRE	Annually	H	L	PAMARS and Fire Occurrence Data Base at FCCC	Fire Staff Officer	When the efficiency for an individual year exceeds that predicted by 40% or the accumulated efficiency for the decade exceeds the predicted by 20%
LANDS	5 years	L	L	5400 open files	L & M Staff Officer	Problem areas which will restrict Plan outputs from being accomplished
	5 years	M	M	2700 open files	L & M Staff Officer	When Forest-wide Standards are not being met or downward trend is indicated
	5 years	L	L	5400 open files	Forest Supervisor Deputy F.S. and Staff Officers	Problem areas which will restrict Plan outputs from being accomplished
	5 years	L	L	2700 open files	L & M Staff Officer	Full utilization of existing corridors
	5 years	L	L	2700 open files	L & M Staff Officer	Full utilization of existing corridors

RESOURCE AREA	ACTION/EFFORT MONITORED	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQUENCY
MINERALS	Effectiveness of meeting Forest goals and outputs	Assess effectiveness of withdrawals in managing resource values	Program Management Review	N/A	Review 20% annually
		Determine if activities are adequately documented and administered	Program Management Review	N/A	Review 20% annually
		Assure that operating stipulations are achieving resource protection objectives	Visual site inspections with interdisciplinary teams. Evaluate activities for compliance with Standards and Guidelines	2 sites	Annually
THE BUILT ENVIRONMENT-ROADS	Miles of new road construction	Validate roading coefficients in planning model	Engineering reports, data base TIS	Mi/year	Annually
ALL	Application of Standards and Guidelines	Determine if Standards and Guidelines are being implemented as planned	Sample review of NEPA documents for proposals on each unit and various management areas	Documents sampled	Annually
	Results of Standards and Guidelines	Determine if Standards and Guidelines are effective in meeting desired objective	Sample review of completed practices, covering all units and various management areas. Review by IDT appointed by Forest Supervisor	Projects reviewed	Annually, beginning with 2nd year
	Acquisition of new information as specified in Information Needs Chapter 2, Forest Plan	Determining progress being made to information needs	Review data generated in response to Information Needs section	Documentation of new data	Every other year beginning 1992

RESOURCE AREA	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITIES	THRESHOLD OF VARIABILITY
MINERALS	5 years	L	L	2800 open files	L & M Staff Officer	Action will be taken on all unauthorized ground disturbing mineral activities. Additional administrative efforts may be required to control "recreational" mining in Wilderness or other special interest areas
	5 years	L	L	2800 open files	L & M Staff Officer	Same as above
	Annually	M	M	2800 open files	District Manager	Same as above
THE BUILT ENVIRONMENT	5 years	H	M	TIS	Forest Engineer	Miles constructed exceeds + or – 25% annually or + or - 15% of 5 years average predicted in the Forest Plan
ALL	2, 3, 5 and 8th years	H	M	1920 files	Planning Staff Officer	Failure to implement any Standards and Guidelines
	Annually	M	M	1920 files	Planning Staff Officer	Determination by IDT that Standards and Guidelines are not producing desired results
	2 years	H	M	1920 files, Summary of new data	Planning Staff Officer	Determination by Line & Staff that opportunities to gather needed info. are being overlooked

D. AMENDMENT AND REVISION

The Forest Plan incorporates legal mandate, professional judgment and the public's stated concerns into a future vision of the Forest. It charts a path for this future by developing management goals and objectives and translating them into management direction in the form of standards and guidelines for management areas on the Forest.

National Forest planning is a dynamic process, and the products - Forest Plans - are similarly dynamic. Forest Plans can and should be modified if conditions warrant. As management goals are applied on the ground, or as new information is learned about resources, the Plan's goals and objectives, or activities that the goals generate, may no longer be appropriate. In such instances, activities may be tailored to fit the resources, or planning objectives as stated in the Plan may be amended. Plans do not apply direction in site-specific management activities. It would be unrealistic and beyond the scope of this plan to try to identify, analyze, and schedule the myriad projects or activities that occur on a National Forest. Instead, this type of site-specific planning occurs at the project-level planning stage.

The Forest Supervisor may amend the Forest Plan. Based on an analysis of the objectives, standards, and other contents of the Forest Plan, the Forest Supervisor shall determine whether a proposed amendment would result in a significant change in the Plan. If the change resulting from the proposed amendment is determined to be significant, the Forest Supervisor shall follow the same procedure as that required for development and approval of a Forest Plan. If the change resulting from the amendment is determined not to be significant for the purposes of the planning process, the Forest Supervisor may implement the amendment following appropriate public notification and satisfactory completion of NEPA procedures.

Two types of Management Areas (MA's) are identified in this Forest Plan. The first type are Management Areas that are legally established and described, such as wilderness, Mt. Baker National Recreation Area, Skagit Wild and Scenic River, and the Alpine Lakes Area. The boundaries of these MA's are firm.

The second type of Management Areas are aggregations of analysis areas that have been assigned to the same management emphasis. The boundaries of this type of MA are not firm and do not always follow easily identified topographic features, such as ridges or streams. The boundaries represent a transition from one set of opportunities and constraints to another, with management direction established for each. During project design, field verification may indicate that the mapped Management Area boundary should be changed to reflect the environmental conditions the MA was intended to include. Such changes will be evaluated and documented in the environmental assessment, including a determination of significance, as discussed above.

The Forest Plan shall ordinarily be revised on a ten-year cycle or at least every 15 years. It also may be revised whenever the Forest Supervisor determines that conditions or demands in the area covered by the Plan have changed significantly, or when changes in RPA policies, goals, or objectives would have a significant effect on Forest level programs. In the monitoring and evaluation process, the interdisciplinary team may recommend a revision of the Forest Plan at any time. Revisions are not effective until considered and approved in accordance with the requirements for the development and approval of the Forest Plan.

The Forest Supervisor shall review the conditions on the land covered by the Plan at least every five years to determine whether conditions or demands of the public have changed significantly.